# 10 — Schematics


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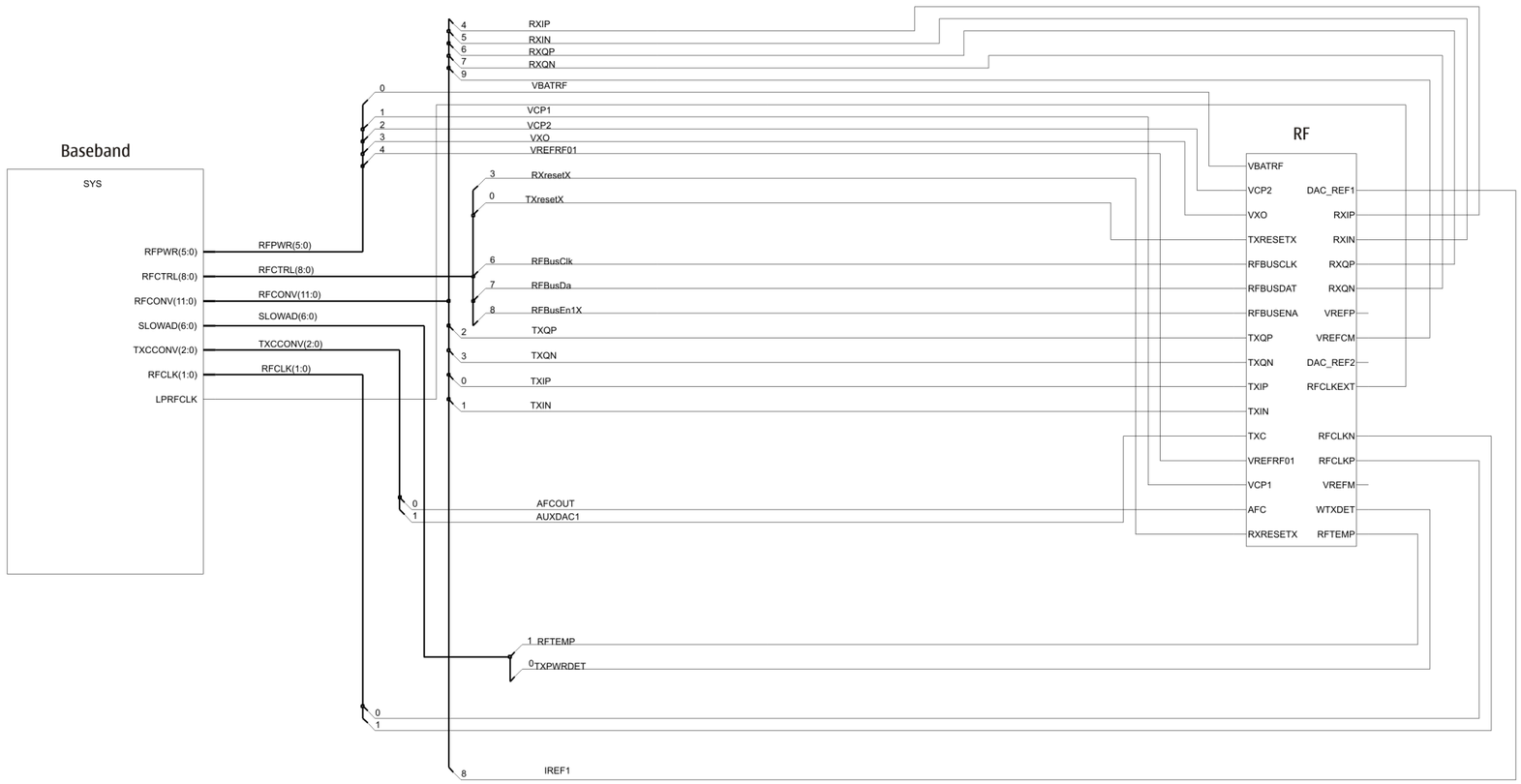
## Baseband - RF connections





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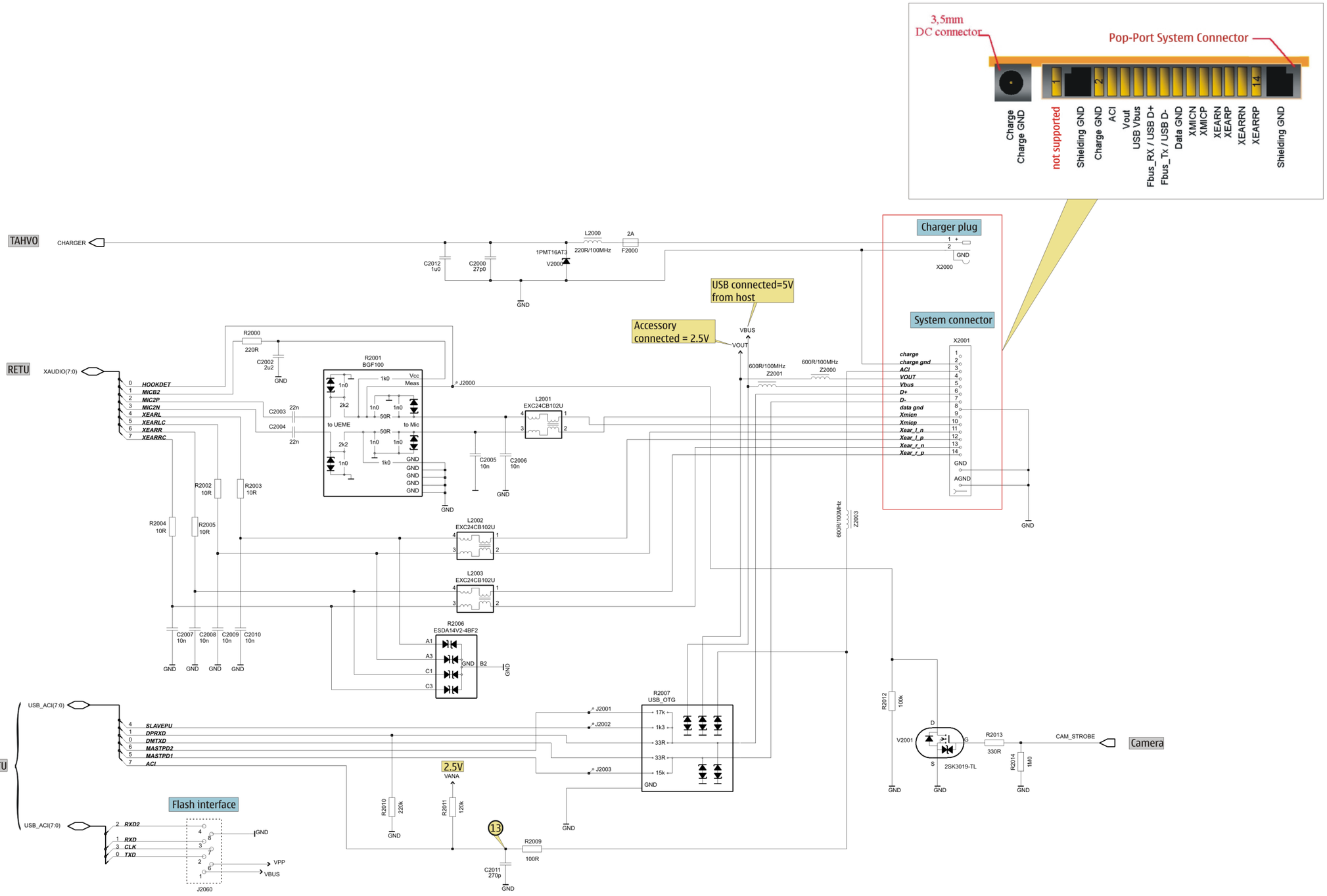
## System connector





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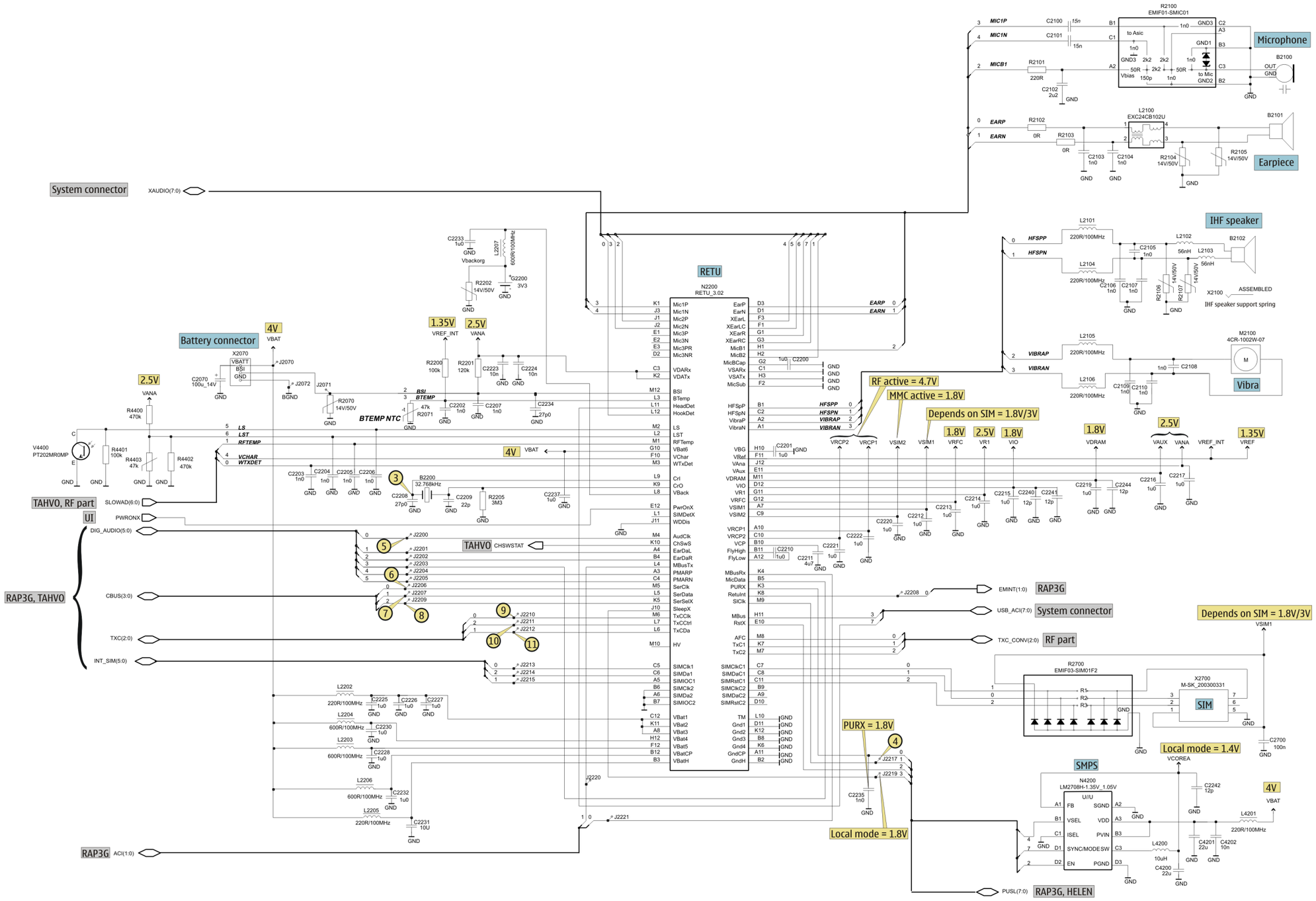
## RETU, SIM, audio





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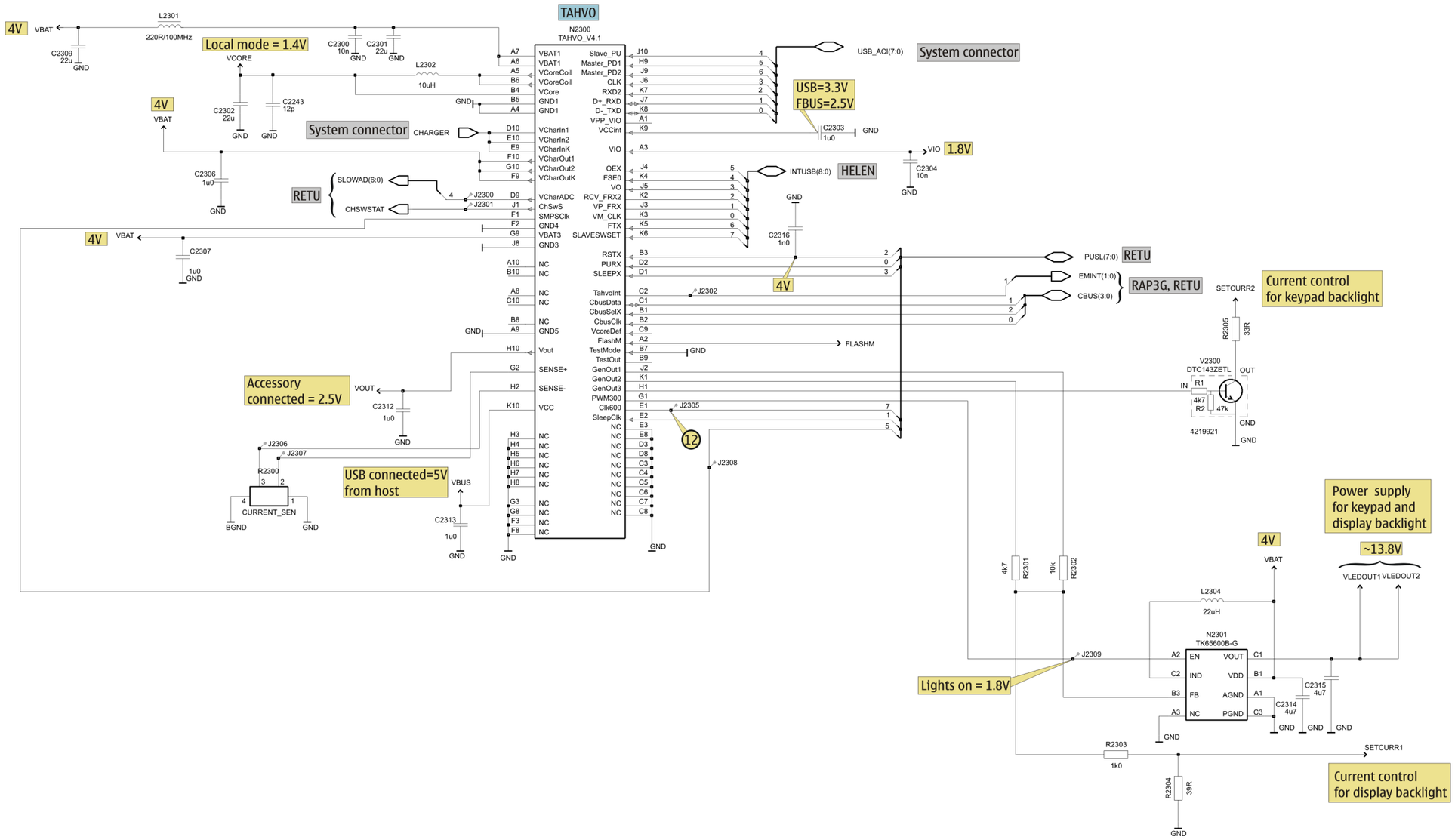
## TAHVO





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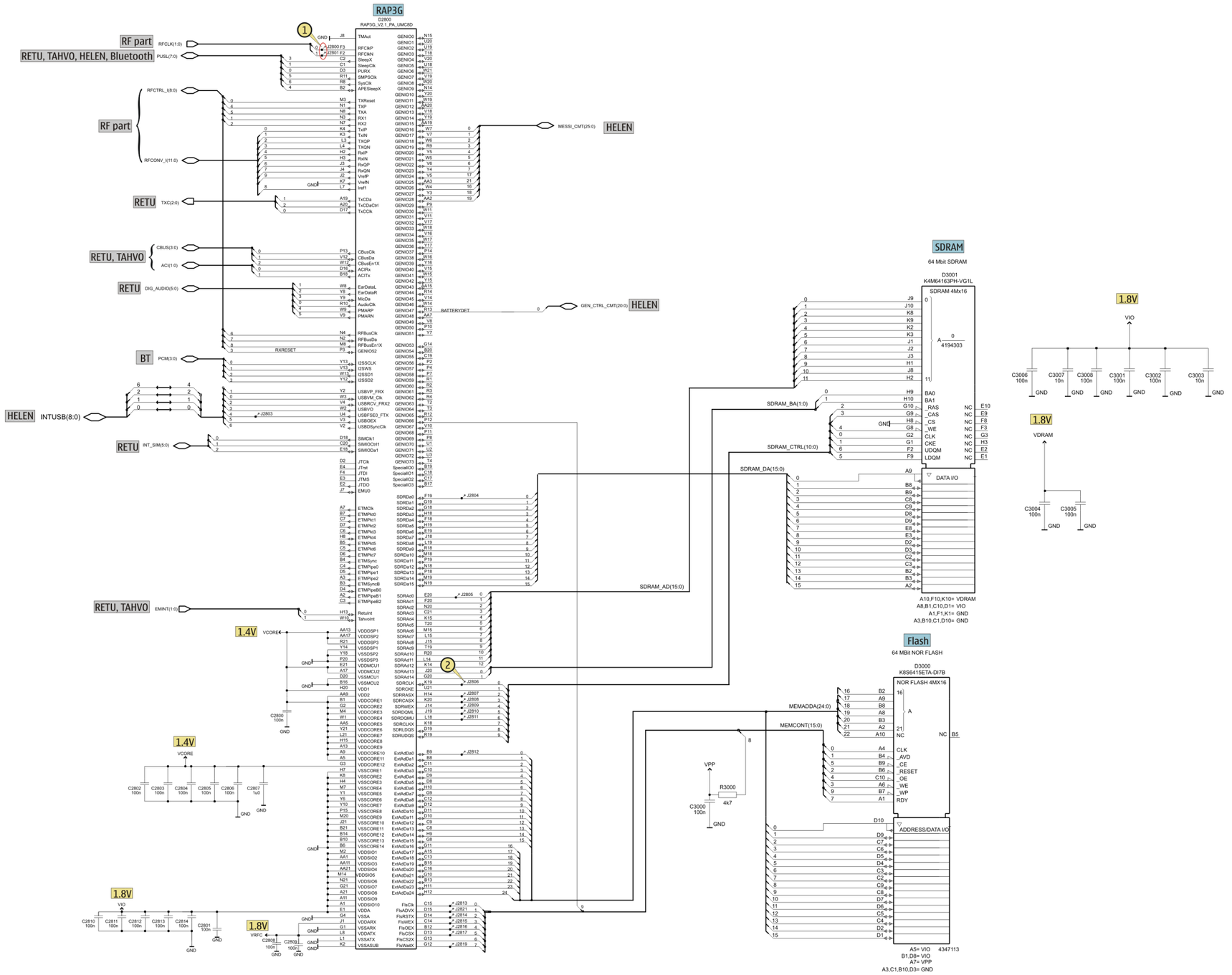
## RAP3G, SDRAM, flash





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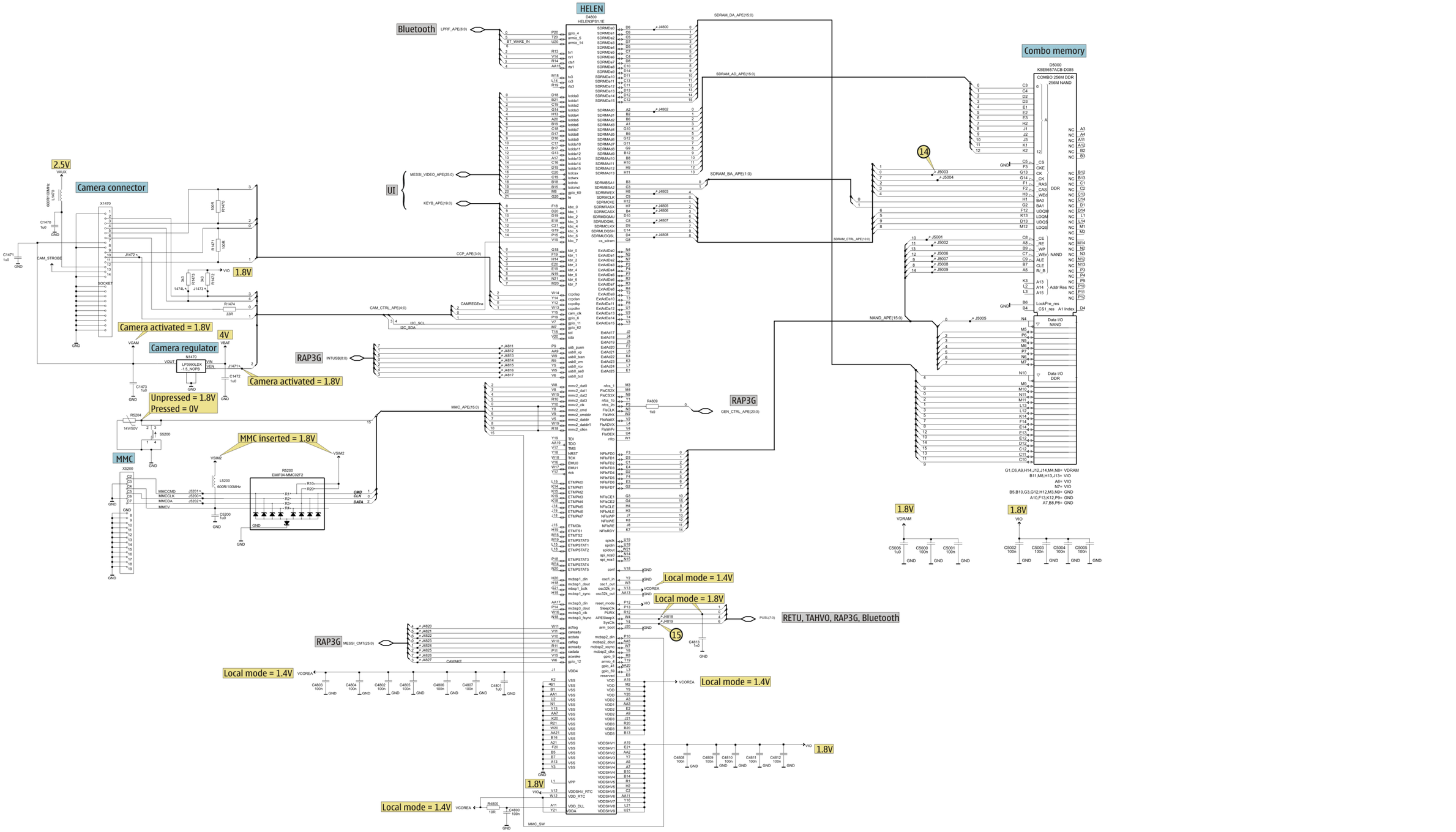
## HELEN, combo memory





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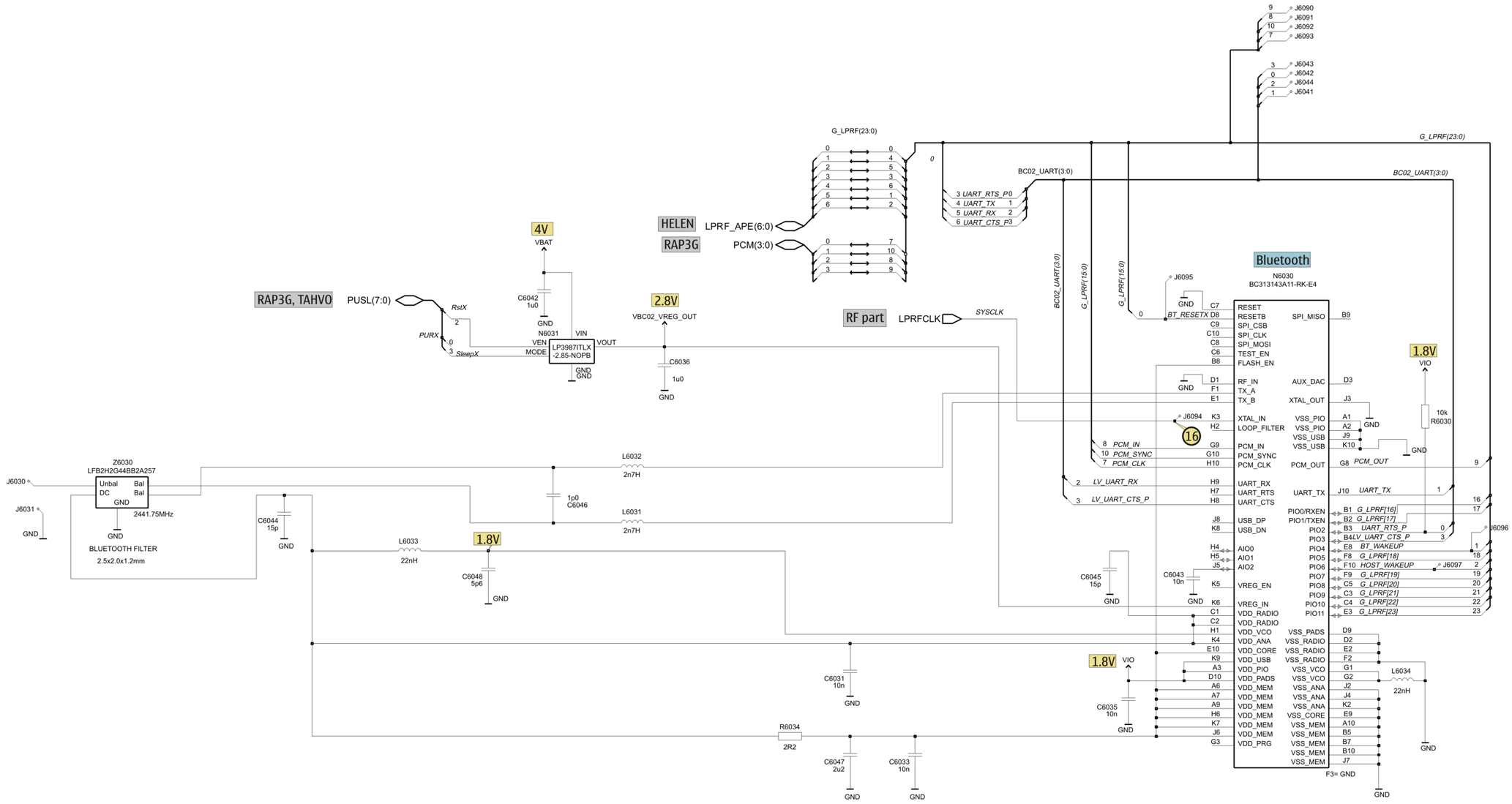
## Bluetooth





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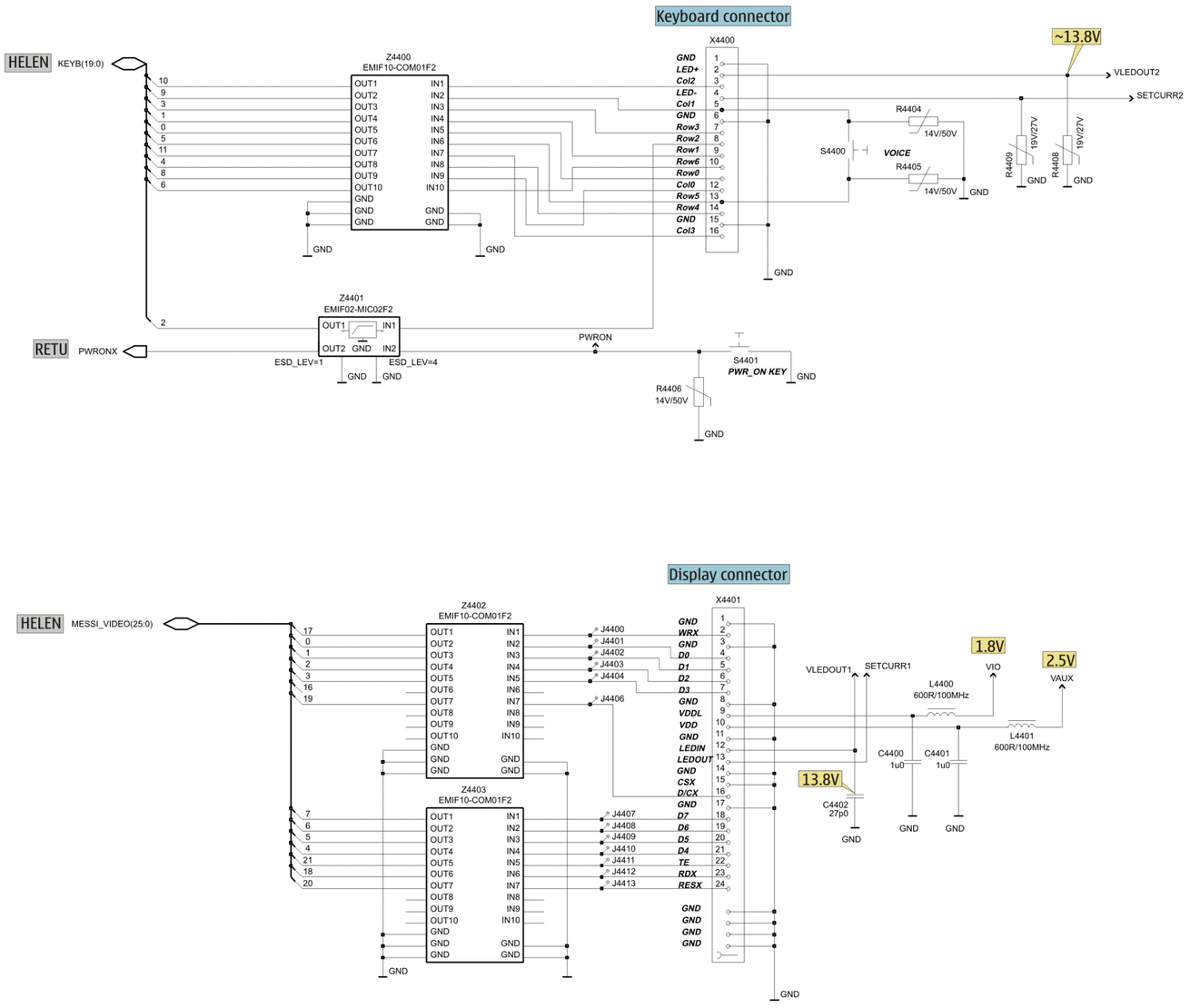
## B to B connections





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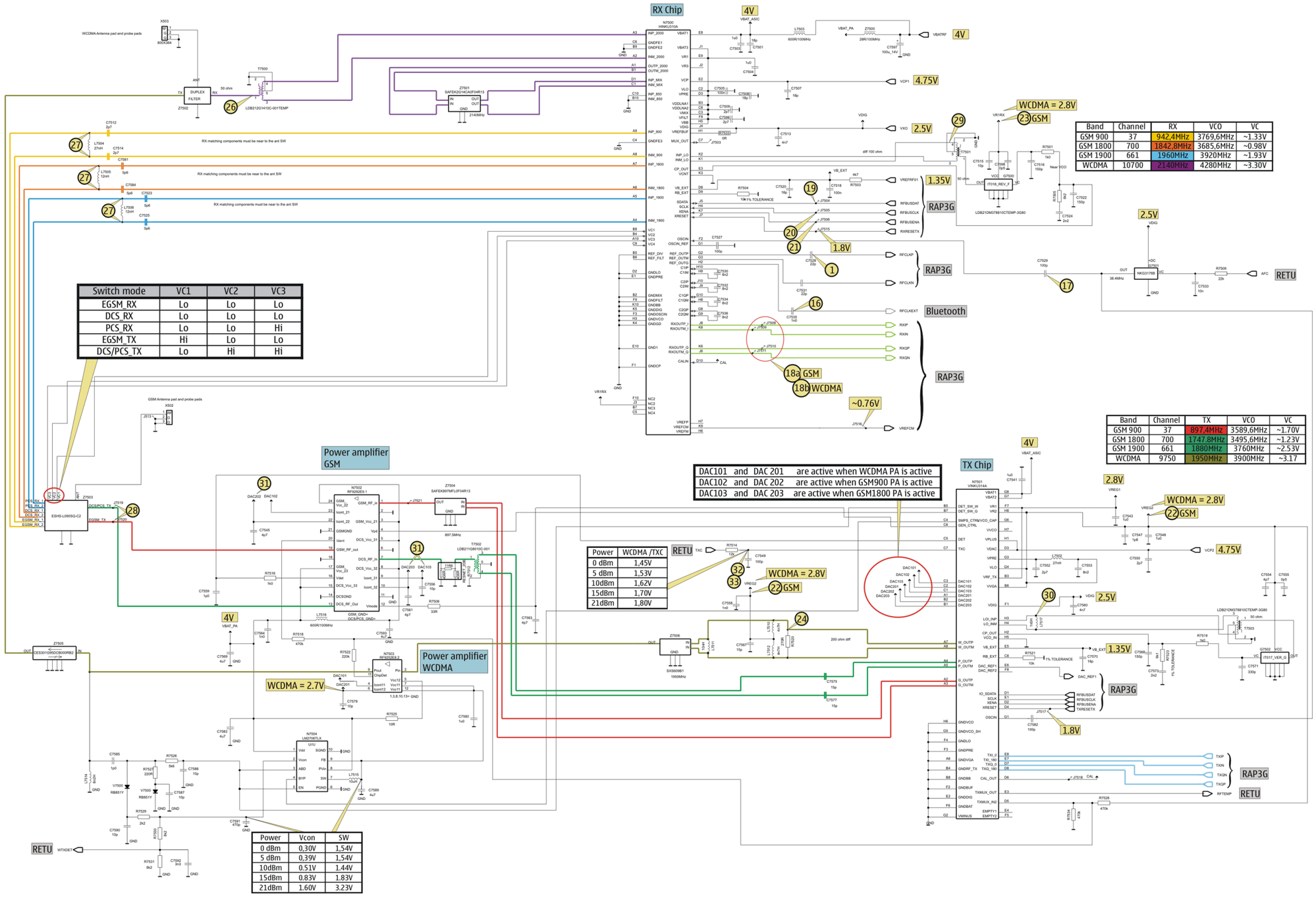
## RF part




| Band | Channel | RX | VCO | VC |
|---|---|---|---|---|
| GSM 900 | 37 | 942,4MHz | 3769,6MHz | ~1.33V |
| GSM 1800 | 700 | 1842,8MHz | 3685,6MHz | ~0.98V |
| GSM 1900 | 661 | 1960MHz | 3920MHz | ~1.93V |
| WCDMA | 10700 | 2140MHz | 4280MHz | ~3.30V |

| Band | Channel | TX | VCO | VC |
|---|---|---|---|---|
| GSM 900 | 37 | 897,4MHz | 3589,6MHz | ~1.70V |
| GSM 1800 | 700 | 1747,8MHz | 3495,6MHz | ~1.23V |
| GSM 1900 | 661 | 1880MHz | 3760MHz | ~2.53V |
| WCDMA | 9750 | 1950MHz | 3900MHz | ~3.17 |

| Switch mode | VC1 | VC2 | VC3 |
|---|---|---|---|
| EGSM_RX | Lo | Lo | Lo |
| DCS_RX | Lo | Lo | Lo |
| PCS_RX | Lo | Lo | Hi |
| EGSM_TX | Hi | Lo | Lo |
| DCS/PCS_TX | Lo | Hi | Hi |

| Power | WCDMA /TXC |
|---|---|
| 0 dBm | 1,45V |
| 5 dBm | 1,53V |
| 10dBm | 1,62V |
| 15dBm | 1,70V |
| 21dBm | 1,80V |

| Power | Vcon | SW |
|---|---|---|
| 0 dBm | 0,30V | 1,54V |
| 5 dBm | 0,39V | 1,54V |
| 10dBm | 0.51V | 1.44V |
| 15dBm | 0.83V | 1.83V |
| 21dBm | 1.60V | 3.23V |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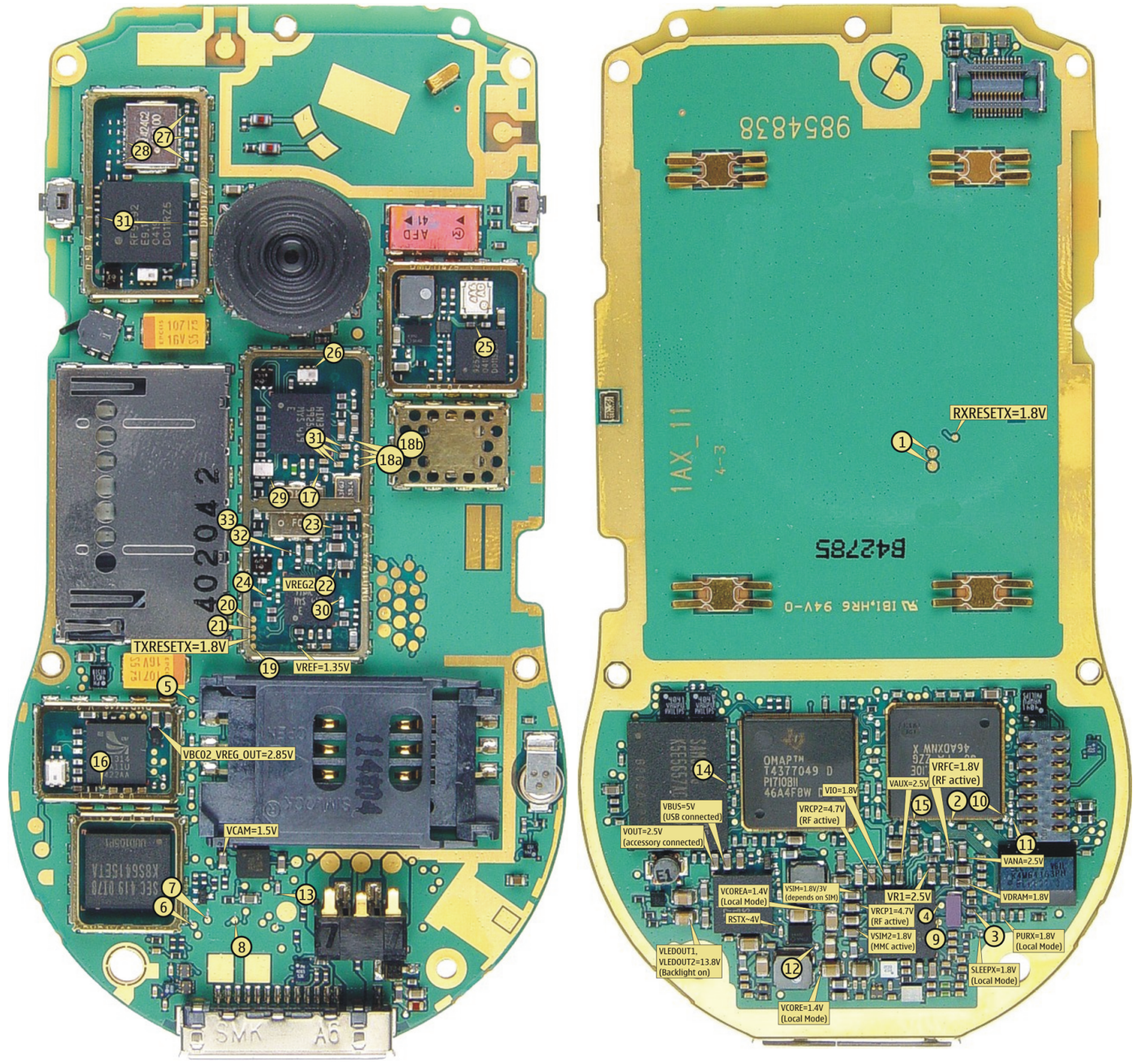
## Signal overview

| | | | |
|---|---|---|---|
| 1) RFCLK at J2800/J2801 | 2) SDRAMCLK at J2806 | 3) 32kHz at C2208 | 4) SLEEPCLK at J2217 |
| 5) AUDIOCLK at J2200 | 6) CBUSCLK at J2206 | 7) CBUSDATA at J2207 | 8) CBUSSELX at J2209 |
| 9) TXCCLK at J2210 | 10) TXCCrtl at J2211 | 11) TXCDATA at J2212 | 12) SMPS at J2305 |
| 13) ACI at C2011 | 14) COMBOCLK at J5003 | 15) SYSCLK at J4819 | 16) LPRFCLK at J6094 |
| 17) 38.4MHz at C7529 | 18a) RXIQ at J7508 - J7511 | 18b) RX I/Q WCDMA J7508 - J7511 | 19) RFBUSDAT at J7504 |
| 20) RFBUSCLK at J7505 | 21) RFBUSEN at J7506 | 22) VREG2 at C7548 | 23) VR1RX at C7515 |
| 24) WCDMA TX at R7520 | 25) WCDMA TX at L7514 | 26) WCDMA RX at T7500 Pin 1 | 27) RX GSM at L7504 - L7506 |
| 28) TX GSM at J7519 - J7520 | 29) RX SHF output at T7501 | 30) TX SHF output at L7517 | 31) Icont GSM 900 at C7545<br>GSM1800 at C7555/7561 |
| 32) TXC LOW at C7549 | 33) TXC HIGH at C7549 | | |





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## Component finder

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B | | C2303 | E8 | C7501 | N7 | D3001 | D2 | J3102 | H4 | J5200 | H2 | L7514 | O10 | R7503 | I6 |
| B2200 | C4 | C2304 | C8 | C7503 | M7 | D4800 | F7 | J3103 | G3 | J5201 | H2 | L7515 | P9 | R7504 | M7 |
| C | | C2306 | D9 | C7504 | M7 | D5000 | F10 | J3104 | G3 | J5202 | H2 | L7516 | P4 | R7505 | L6 |
| C1470 | R6 | C2307 | C9 | C7505 | L7 | F | | J3105 | G3 | J6030 | E1 | L7517 | J7 | R7506 | Q4 |
| C1471 | O6 | C2309 | B8 | C7507 | M6 | F2000 | A9 | J3106 | G3 | J6031 | E1 | N | | R7509 | K7 |
| C1472 | D6 | C2312 | D9 | C7508 | M6 | G | | J3107 | J9 | J6034 | G3 | N1470 | D5 | R7512 | P4 |
| C1473 | D5 | C2313 | D9 | C7509 | M6 | G2200 | F11 | J3108 | J9 | J6035 | G3 | N2200 | C5 | R7514 | K6 |
| C2000 | B9 | C2314 | D10 | C7512 | S4 | G7500 | K6 | J3109 | J9 | J6037 | G3 | N2300 | D8 | R7516 | R3 |
| C2002 | D5 | C2315 | C10 | C7513 | L6 | G7501 | L7 | J3110 | H6 | J6041 | F4 | N2301 | D10 | R7518 | Q2 |
| C2003 | B5 | C2316 | C8 | C7514 | S4 | G7502 | M9 | J3111 | J8 | J6042 | G3 | N4200 | C7 | R7519 | J7 |
| C2004 | B5 | C2700 | G11 | C7515 | K7 | J | | J3112 | J9 | J6043 | F3 | N6030 | G3 | R7520 | J6 |
| C2005 | B5 | C2800 | F4 | C7516 | K6 | J1471 | D6 | J3113 | J8 | J6044 | F4 | N6031 | G3 | R7521 | J6 |
| C2006 | B5 | C2801 | H4 | C7518 | N7 | J1472 | O7 | J3114 | J8 | J6090 | G3 | N7500 | M6 | R7522 | N8 |
| C2007 | B4 | C2802 | F3 | C7520 | N7 | J1473 | H8 | J3115 | H5 | J6091 | F3 | N7501 | J7 | R7523 | I7 |
| C2008 | A4 | C2803 | E5 | C7522 | L6 | J1474 | H8 | J3116 | H5 | J6092 | F4 | N7502 | Q3 | R7525 | N9 |
| C2009 | C4 | C2804 | E3 | C7523 | R4 | J2000 | D5 | J3117 | H5 | J6093 | F3 | N7503 | O10 | R7526 | O9 |
| C2010 | B3 | C2805 | G6 | C7524 | K5 | J2001 | D9 | J3118 | H5 | J6094 | F2 | N7504 | O9 | R7527 | O9 |
| C2011 | D6 | C2806 | H4 | C7525 | R4 | J2002 | D9 | J4400 | H9 | J6095 | H3 | R | | R7528 | J7 |
| C2012 | B9 | C2807 | H3 | C7527 | M6 | J2003 | D9 | J4401 | H9 | J6096 | G4 | R1470 | H6 | R7529 | O9 |
| C2070 | H3 | C2808 | H4 | C7528 | M6 | J2060 | I8 | J4402 | H9 | J6097 | G3 | R1471 | H6 | R7530 | N9 |
| C2100 | B5 | C2809 | G4 | C7529 | L7 | J2070 | D8 | J4403 | H9 | J7503 | N7 | R1472 | H8 | R7531 | N9 |
| C2101 | B5 | C2810 | G6 | C7530 | L7 | J2071 | D8 | J4404 | H9 | J7504 | N7 | R1473 | H8 | R7533 | L6 |
| C2102 | B5 | C2811 | H5 | C7531 | M6 | J2072 | D7 | J4406 | U3 | J7505 | N7 | R1474 | G6 | R7534 | R2 |
| C2103 | B4 | C2812 | E5 | C7532 | L7 | J2200 | H4 | J4407 | H10 | J7506 | N7 | R2000 | D5 | S | |
| C2104 | B4 | C2813 | E4 | C7533 | K7 | J2201 | C6 | J4408 | H10 | J7508 | L7 | R2001 | B5 | S4400 | R11 |
| C2105 | B6 | C2814 | F3 | C7534 | M7 | J2202 | C6 | J4409 | H10 | J7509 | L7 | R2002 | B4 | S4401 | R2 |
| C2106 | B6 | C3000 | C3 | C7535 | L6 | J2203 | C6 | J4410 | U3 | J7510 | L6 | R2003 | C4 | S5200 | O2 |
| C2107 | B6 | C3001 | D4 | C7536 | M7 | J2204 | D5 | J4411 | U3 | J7511 | M7 | R2004 | C4 | T | |
| C2108 | B8 | C3002 | C3 | C7541 | K7 | J2205 | D6 | J4412 | G11 | J7515 | M4 | R2005 | C4 | T7500 | N6 |
| C2109 | B8 | C3003 | D4 | C7543 | K7 | J2206 | C4 | J4413 | U4 | J7516 | L7 | R2006 | B4 | T7501 | L6 |
| C2110 | B8 | C3004 | E1 | C7545 | Q2 | J2207 | C5 | J4800 | E9 | J7517 | I5 | R2007 | B6 | T7502 | P3 |
| C2200 | B5 | C3005 | E3 | C7547 | J7 | J2208 | F4 | J4802 | G11 | J7518 | M7 | R2009 | C6 | T7503 | M9 |
| C2201 | D4 | C3006 | E4 | C7548 | J7 | J2209 | C5 | J4803 | E11 | J7519 | R3 | R2010 | C6 | V | |
| C2202 | C4 | C3007 | C3 | C7549 | K6 | J2210 | C4 | J4805 | F11 | J7520 | S3 | R2011 | D5 | V2000 | B8 |
| C2203 | C4 | C3008 | D4 | C7550 | I7 | J2211 | E3 | J4806 | F11 | J7521 | P2 | R2012 | D5 | V2001 | D4 |
| C2204 | B4 | C4200 | C7 | C7552 | I7 | J2212 | E3 | J4807 | F9 | L | | R2013 | D4 | V2300 | D8 |
| C2205 | B4 | C4201 | C7 | C7553 | I7 | J2213 | C6 | J4808 | E9 | L1470 | R7 | R2014 | D4 | V4400 | U4 |
| C2206 | B4 | C4202 | D8 | C7554 | M10 | J2214 | C5 | J4811 | D9 | L2000 | B8 | R2070 | B8 | V7500 | O9 |
| C2207 | D4 | C4400 | O7 | C7555 | M10 | J2215 | C6 | J4812 | E8 | L2001 | B6 | R2071 | C2 | X | |
| C2208 | C4 | C4401 | R5 | C7556 | Q4 | J2217 | D4 | J4813 | D6 | L2002 | B4 | R2100 | B5 | X1470 | P6 |
| C2209 | C4 | C4402 | Q10 | C7558 | J6 | J2219 | C4 | J4814 | D7 | L2003 | B4 | R2101 | B5 | X2001 | A6 |
| C2210 | D6 | C4800 | F9 | C7559 | R2 | J2220 | F3 | J4815 | D8 | L2100 | U3 | R2102 | B4 | X2060 | N11 |
| C2211 | C7 | C4801 | E7 | C7560 | I7 | J2221 | C4 | J4816 | E7 | L2101 | B6 | R2103 | B4 | X2070 | C8 |
| C2212 | C6 | C4802 | E8 | C7561 | Q4 | J2300 | C9 | J4817 | D9 | L2102 | S5 | R2104 | U4 | X2100 | T9 |
| C2213 | E4 | C4803 | E6 | C7563 | Q4 | J2301 | D8 | J4818 | E7 | L2103 | S6 | R2105 | U4 | X2700 | F8 |
| C2214 | D5 | C4804 | G9 | C7564 | R3 | J2302 | C6 | J4819 | E5 | L2104 | B6 | R2106 | S5 | X4400 | F2 |
| C2215 | D5 | C4805 | H7 | C7567 | J6 | J2305 | C7 | J4820 | G6 | L2105 | B8 | R2107 | S5 | X4401 | T3 |
| C2216 | D5 | C4806 | H6 | C7568 | I7 | J2306 | B8 | J4821 | G6 | L2106 | B8 | R2200 | C4 | X4402 | R9 |
| C2217 | E4 | C4807 | E8 | C7569 | R4 | J2307 | A7 | J4822 | F6 | L2202 | E4 | R2201 | D4 | X4403 | J9 |
| C2219 | D4 | C4808 | E8 | C7570 | I6 | J2308 | D8 | J4823 | F6 | L2203 | E5 | R2202 | E11 | X4404 | R4 |
| C2220 | D6 | C4809 | H7 | C7571 | L10 | J2309 | D11 | J4824 | F6 | L2204 | D5 | R2205 | C4 | X4405 | J4 |
| C2221 | D6 | C4810 | G9 | C7573 | I7 | J2800 | M5 | J4825 | G6 | L2205 | C6 | R2301 | C10 | X5200 | L3 |
| C2222 | D6 | C4811 | F6 | C7575 | I6 | J2801 | L5 | J4826 | G6 | L2206 | E5 | R2302 | D11 | Z | |
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| C2224 | D5 | C4813 | E6 | C7579 | N11 | J2803 | D4 | J5001 | E8 | L2301 | B8 | R2304 | C10 | Z2001 | B7 |
| C2225 | D4 | C5000 | F11 | C7580 | O10 | J2804 | E3 | J5002 | G8 | L2302 | B7 | R2305 | E8 | Z2003 | B7 |
| C2226 | C6 | C5001 | E9 | C7581 | S4 | J2805 | E1 | J5003 | F9 | L2304 | D10 | R2700 | E11 | Z4400 | H3 |
| C2227 | D6 | C5002 | G11 | C7582 | I7 | J2806 | E4 | J5004 | F9 | L4200 | D7 | R3000 | H3 | Z4401 | G1 |
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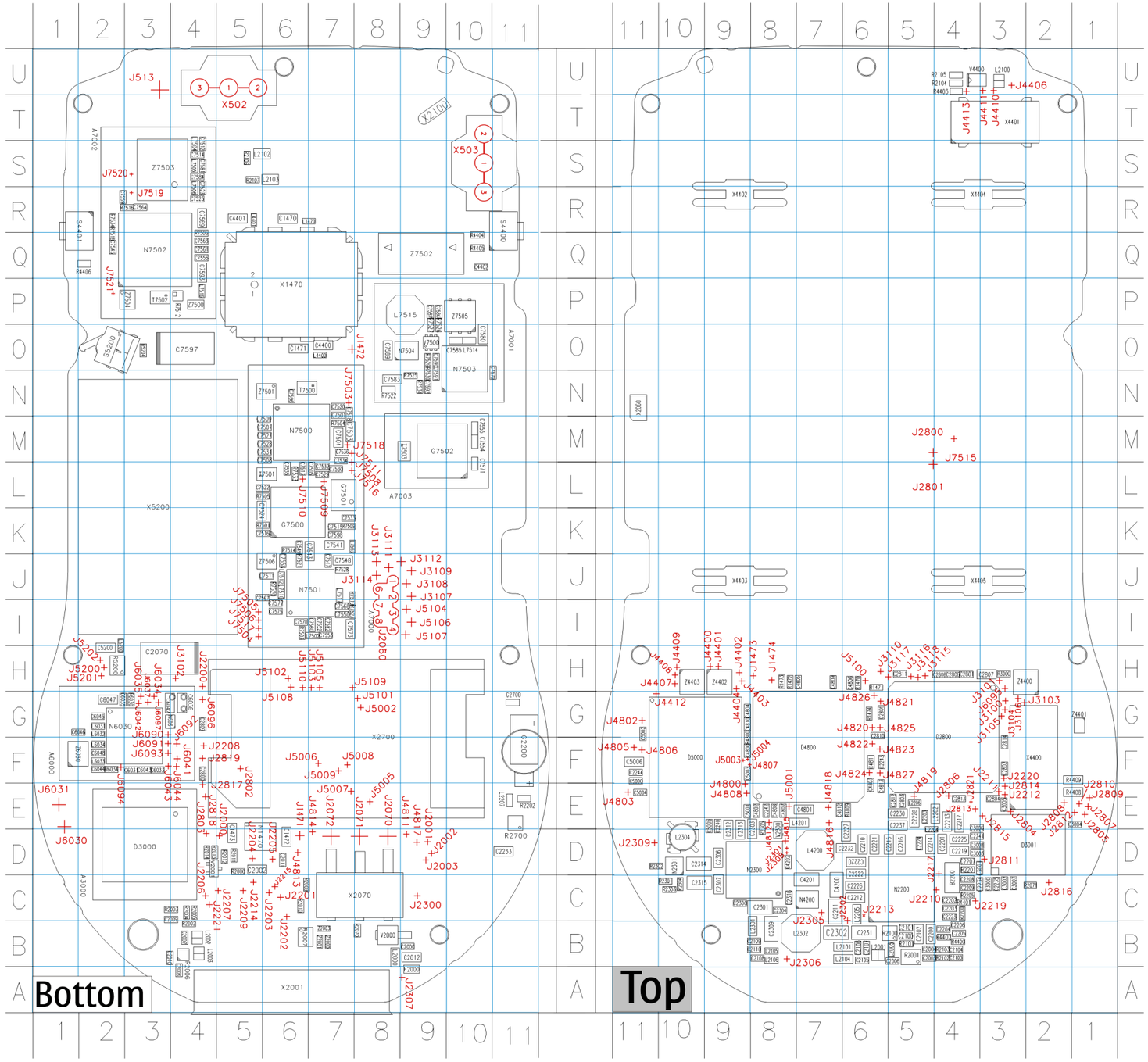
| C2234 | C4 | C6031 | F3 | C7589 | O8 | J2812 | E1 | J5100 | H6 | L6032 | G2 | R4405 | Q10 | Z7502 | Q9 |
| C2235 | C3 | C6033 | F3 | C7590 | O9 | J2813 | E4 | J5101 | G8 | L6033 | F2 | R4406 | Q2 | Z7503 | S3 |
| C2237 | E5 | C6035 | G2 | C7591 | N9 | J2814 | E3 | J5102 | H6 | L6034 | F2 | R4408 | E1 | Z7504 | P3 |
| C2240 | E9 | C6036 | G4 | C7592 | N9 | J2815 | E3 | J5103 | H7 | L7502 | I7 | R4409 | F1 | Z7505 | P10 |
| C2242 | E8 | C6043 | F3 | C7596 | N6 | J2817 | E4 | J5105 | H7 | L7504 | S4 | R4809 | E6 | | |
| C2243 | F6 | C6044 | F2 | C7597 | O4 | J2818 | E4 | J5106 | I9 | L7505 | S4 | R5200 | H2 | | |
| C2244 | F11 | C6045 | G2 | C7598 | K7 | J2819 | F4 | J5107 | I9 | L7506 | R4 | R5204 | O3 | | |
| C2300 | C9 | C6046 | G1 | D | | J2821 | E4 | J5108 | H6 | L7510 | J6 | R6030 | G3 | | |
| C2301 | C8 | C6047 | G2 | D2800 | G4 | J3100 | G3 | J5109 | H7 | L7511 | J6 | R6034 | F2 | | |
| C2302 | B7 | C6048 | F2 | D3000 | D3 | J3101 | H3 | J5110 | H6 | L7512 | J6 | R7501 | K6 | | |





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